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# *Matelea quindecimlobata* (Apocynaceae, Asclepiadoideae), a New Species from Amazonas, Brazil

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**ABSTRACT.** *Matelea quindecimlobata* Farinaccio & W. D. Stevens, a new species of Asclepiadoideae, Apocynaceae, from Amazonas, Brazil, is described and illustrated. The most diagnostic aspect of this new species of *Matelea* Aublet s. str. is the lobed, then fimbriate outer margin of the outer corona.

**RESUMO.** *Matelea quindecimlobata* Farinaccio & W. D. Stevens, uma nova espécie de Asclepiadoideae, Apocynaceae, do Amazonas, Brasil, é descrita e ilustrada. Apresenta a margem externa dos segmentos da corona lobado-fimbriada, característica diagnóstica, que a distingue das espécies relacionadas a *Matelea* Aublet s. str.

**Key words:** Amazonas, Apocynaceae, Asclepiadoideae, Brazil, IUCN Red List, *Matelea*.

*Matelea* Aublet (Asclepiadoideae, Apocynaceae) belongs to the New World subtribe Gonolobinae of the tribe Asclepiadeae, which can be distinguished within the subfamily by having the pollinia partially sterile and excavated on one or both faces and oriented more or less horizontally along the margin of the style apex (Stevens, 1988). The genus in the broad sense comprises about 300 species (Morillo, 1997) and is abundant and diverse in the tropical areas of the mainland of North and South America (Spellman, 1978). The southern Mexico–Guatemala region appears to be the center of diversity of the genus, with a possible secondary center in northern South America (Spellman & Dwyer, 1973). During the preparation of the treatment for the flora of the Ducke Reserve, Central Amazon, Brazil, one new species of *Matelea* was recognized and is here described and illustrated.

***Matelea quindecimlobata*** Farinaccio & W. D. Stevens, sp. nov. **TYPE:** Brazil. Amazonas: Presidente Figueiredo, AM 210, Km 20, Igapó da Onça, Corredeira da Pantera, 17 July 2008 (fl.), M. A. Farinaccio, V. V. Scudeller & E. N. dos

Santos-Silva 750 (holotype, SPF; isotypes, B, ESA, F, HRCB, HUEFS, INPA, K, MBM, MO, NY, RB, SP, SPF). Figure 1.

Haec species a *Matelea stenopetala* Sandwith et speciebus ei affinibus lobis coronae exterioris liberis lobulatis-fimbriatis differt.

Vines, twining to the right, older stems woody and covered with thick, ridged, spongy, fissured, tan-colored cork, young stems with inconspicuous mixed indumentum, long trichomes sparse, translucent, in 2 lines, patent, 0.3–0.4 mm, short trichomes dense, translucent, ca. 0.05 mm, glandular trichomes dense, pale brown, ca. 0.05 mm, glabrescent, internodes 6–20 cm. Leaves opposite, blades elliptic, 8–15 × 3–7.5(–9.3) cm, apex acute to acuminate, base obtuse to rounded, glabrous or with sparse short and glandular trichomes on midrib, lateral veins 4 to 8 pairs, diverging 55°–65° from midrib, colleters 1 to 6 at abaxial base; petiole 1.5–3 cm, with sparse mixed indumentum. Inflorescence congested-racemiform, peduncle 1–6 mm, with sparse mixed indumentum, becoming corky with age, axis 4–5 mm, covered with pedicel scars, pedicel 6.5–12 mm, with mixed indumentum or long trichomes absent, canaliculate when dry, bracts 0.7–1.1 × 0.4–0.7 mm, deltate to ovate, with dense short and glandular trichomes. Calyx divided to base, with 1 colleter per sinus, lobes elliptic, 1–1.9 × 0.8–1.1 mm, apex acute to rounded, green, sharply reflexed, with dense short and glandular trichomes outside, glabrous inside; corolla very briefly campanulate then rotate, white, drying with pale brown veins, adaxially glabrous, abaxially with inconspicuous short and glandular trichomes distally, tube 0.8–1.1 mm, lobes elliptic, 3–5 × 1.5–2.4 mm, apex rounded to acute, patent; gynostegium stipe 0.9–1.1 mm tall, corona of 2, 5-lobed, fleshy, glabrous skirts covering stipe of gynostegium, outer corona lobes 5, free, opposite anthers, dark colored when dry, base horizontal and overlapping the corolla

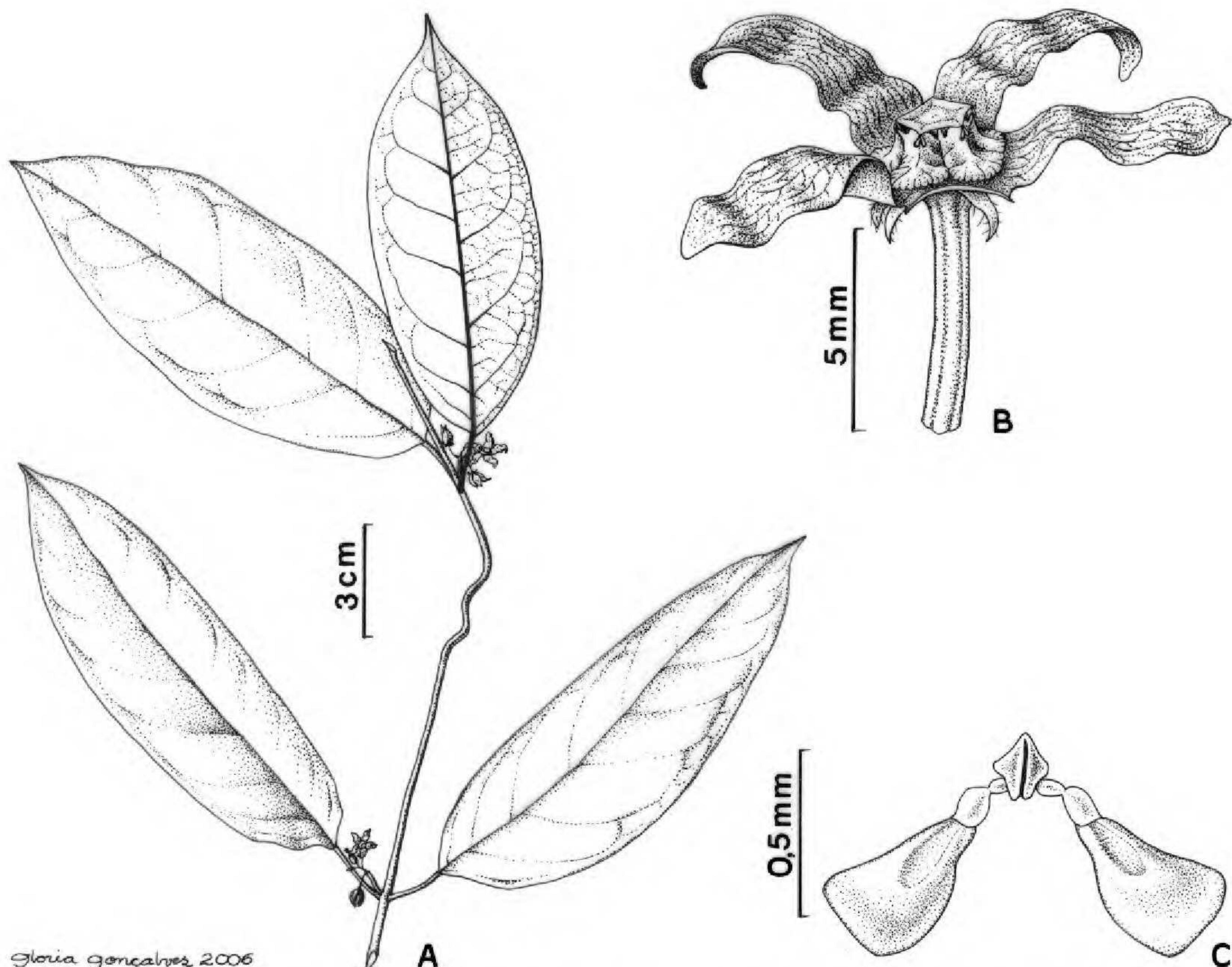


Figure 1. *Matelea quindecimlobata* Farinaccio & W. D. Stevens. —A. Flowering branch. —B. Flower with corolla lobe removed showing corona. —C. Pollinium. Drawn from Souza et al. 488 (INPA).

tube, each lobe trapezoidal in outline, outer margin deeply and irregularly 3- to 6-lobed-fimbriate with the lateral lobules broader than the central lobule(s),  $0.4 \times 0.5$ – $0.5 \times 0.9$ – $1$  mm, above the base a vertical lobule adnate to gynostegium stipe, this attenuate with tip touching anther base, 0.3–0.4 mm tall, inner corona lobes between erect outer corona lobules, elliptic, concave,  $0.6 \times 0.9$ – $0.5 \times 0.7$  mm, terminal appendages appressed to margin of style apex, ca.  $0.2 \times 0.8$ – $0.9$  mm; corpusculum  $0.14$ – $0.19 \times 0.08$ – $0.09$  mm, sagittate, pale brown, caudicles  $0.05$ – $0.1 \times 0.06$ – $0.08$  mm, pollinia  $0.33$ – $0.46 \times 0.22$ – $0.25$  mm, obovoid, sterile and deeply excavated on proximal half near center; style apex 1.8–1.9 mm wide, pentagonal, nearly circular, shallowly concave; ovaries smooth. Follicles and seeds unknown.

**Distribution and habitat.** *Matelea quindecimlobata* occurs in primary terra firme rainforest. The term terra firme is applied to all forests that are not seasonally flooded by the rivers. Different habitats can be recognized within what is called terra firme; forests

of plateaus, slopes, white sands, and valley bottoms are defined mainly by the type of soil and this is associated with the variation in elevation and slope in the area (Ribeiro et al., 1999). The new species has been collected along streams in clearings (igarapé) in valley-bottom forest (baixio) that is characterized mainly by sandy soil, a waterlogged state during the wet season, and the accumulation of sediments.

**IUCN Red List category.** The new species occurs in Reserva Ducke, an area of protected primary forest, 25 km northeast of Manaus. *Matelea quindecimlobata* could be considered as Vulnerable (VU) under IUCN Red List criteria (IUCN, 2001), not only because the population is small, but also because it has a restricted distribution and has been found in places near Manaus that are prone to the effects of human activities, e.g., tourism (Cachoeira Baixa do Tarumã and Corredeira da Pantera).

**Phenology.** *Matelea quindecimlobata* is known to flower in April, July, August, October, and December.

**Etymology.** The specific epithet is an allusion to its corona, which is divided (radially) into five distinct lobes, and each of these lobes is more or less divided into three lobules.

**Relationships.** *Matelea quindecimlobata* belongs to a small group of species including the type of *Matelea*, *M. palustris* Aublet, and *M. stenopetala*, which are mostly restricted to riverine habitats in the Amazon Basin. These are shrubs or vines with prominent corky bark, a mixed indumentum, small flowers in indeterminate congested-racemiform inflorescences with closely spiraled scars, and a corona with the outer lobes horizontal at the base of the gynostegium stipe and the inner corona lobes adnate to the stipe. The other species of this group have the outer corona discoid, without free lobes, with the outer margin entire or at most pentagonal, while the new species has five free lobes that are then lobed again. *Matelea quindecimlobata* is probably most closely related to *M. stenopetala*.

**Paratypes.** BRAZIL. AMAZONAS: Manaus, Cachoeira Baixa do Tarumã, 1 July 1955 (fl.), *L. Coelho s.n.* (INPA 1293); Igarapé do Passapinho, 3 Aug. 1956 (fl.), *Dionísio s.n.* (INPA 4041, MO); Reserva Florestal Ducke, Manaus–Itacoatiara rd., Km 26, Acará trail, 24 Oct. 1974 (fl.), *G. T. Prance, T. D. Pennington & J. J. Ramos 23060* (INPA, MO, NY); 02°53'S, 59°58'W, Manaus–Itacoatiara, Km 26, 4 Dec. 1997 (fl.), *M. A. D. de Souza, L. H. P. Martins & P. A. C. L. Assunção 488* (INPA); 16 Apr. 1998 (fl.), *M. A. D. de Souza, P. A. C. L. Assunção, M. J. G. Hopkins & G. T. Prance 668* (INPA).

*Assunção 488* (INPA); 16 Apr. 1998 (fl.), *M. A. D. de Souza, P. A. C. L. Assunção, M. J. G. Hopkins & G. T. Prance 668* (INPA).

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